

ABSTRACT OF THE DISCLOSURE

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The invention disclosed herein relates to hollow fiber reinforced composite material parts having one or more selectively positioned core, structural insert, or veneer pieces integrally associated therewith. In one embodiment, the composite part defines a first shape and the method comprises at least the following steps: providing a mandrel that
10 is substantially the same as but sized smaller than the first shape of the composite material part, wherein the mandrel has one or more selectively positioned complementary recesses; forming an elastic layer about the mandrel to define an elastic bladder; applying a vacuum in between the bladder and the mandrel to thereby force and conform the bladder against the exterior surface of the mandrel; applying a resin and a fiber material about the bladder,
15 and positioning at least one of the one or more core, structural insert, or veneer pieces adjacent and proximate to one of the one or more selectively positioned recesses to define an uncured part; placing the uncured part into a mold; applying a fluid or gas pressure in between the mandrel and the uncured part to thereby force and conform the uncured part against the interior surface of the mold; and heating the mold to a temperature and for a
20 period of time sufficient to cure the resin to thereby define the hollow composite material part.